Alabama Dune Cooperative Restoration Project

General Project Description

The cities of Gulf Shores and Orange Beach, State of Alabama (Gulf State Park), and the U.S. Fish and Wildlife Service (Bon Secour National Wildlife Refuge) and the Bureau of Land Management (Fort Morgan Beach) form the largest group of coastal land owners along the Alabama Gulf Coast. These owners collectively own and/or manage more than 20 miles of dune habitat. This restoration project would result in the formation of a partnership, the Coastal Alabama Dune Restoration Cooperative (CADRC), to restore natural resources that were injured by the Deepwater Horizon oil spill response efforts.

Dune habitat in Alabama has been affected by the ***Deepwater Horizon*** oil spill, including response efforts. The Trustees propose to restore 55 acres of dune habitat in of primary dune habitat by planting native dune vegetation and installing sand fencing. The proposed project will help prevent erosion by restoring a "living shoreline," a coastline protected by plants and natural resources rather than hard structures.

Project Details

Planting:

- All plants will be grown from seeds or cuttings derived from the Alabama or North Florida coast to ensure appropriate genetic stocks are used in the project.
- Slow release fertilizer (osmocote 18-6-12 e.g.) will be used to ensure proper establishment of the plants.
- The plants will be installed 6" deep to ensure that sufficient moisture is available to roots, and properly covered with sand to stabilize and protect the plants.

- To maximize stabilization and to limit wind erosion plants will be mixed in the following proportions: 70% Sea oats grasses; 20% Panic grasses and smooth cord grasses, and 10% ground cover plants (sea purslane, beach elder, white morning glories and railroad vine), and planted on 18-inch centers.

Sand Fencing:

- Protective sand fencing that lines the dune feature and contributes to sand accumulation along the toe of the dunes will be installed for the cities of Orange Beach and Gulf Shores and on Bureau of Land Management lands.

Signage:

- Informative dune restoration signage will be placed on the project area at a rate of 10 to 25 signs per mile to reduce human disturbance of restored areas.
- The dune enhancement serves to stabilize the dune feature and promote dune growth and further increase protection of dune habitat.

Resource Benefits and Relationship to Injury

The goal of this project is to provide early restoration for some of the natural resources that have been injured as a result of the ***Deepwater Horizon*** oil spill, including response efforts. The project will help restore an area of the beach where oiling and the extensive use of all-terrain vehicles and heavy equipment during the response have inhibited plant growth and prevented the natural seaward expansion of the dunes since May 2010.

Methods and Results of Offsets Estimation

HEA is a method commonly used in natural resource damage assessments to quantify changes in ecological services on a habitat basis (e.g., units of marsh habitat). When HEA is used to estimate restoration credits, the anticipated ecological benefits resulting from the restoration action often are expressed in units that reflect the present (current) value of ecological benefits over a project's lifespan. For purposes of this proposed early restoration project, the Trustees have expressed HEA-estimated habitat benefits as "discounted service acre years" or DSAYs of the specific habitat types to be restored. The Trustees estimated the present value of Offsets associated with early restoration projects focused on primary dune restoration in terms of primary dune DSAYs.

The Trustees considered a variety of project-specific factors when applying HEA to estimate the ecological benefits of this proposed project, including, but not limited to: the time at which ecological services from a restoration project begins to accrue; the rate of ecological service accrual over time; the time period over which ecological services will be provided; the quantity and quality of ecological services provided by the restored habitat or resource relative to those not affected by the spill; and the size of the restoration action. It is estimated that this project will provide 240 DSAYs.

Estimated cost

$1,145,976

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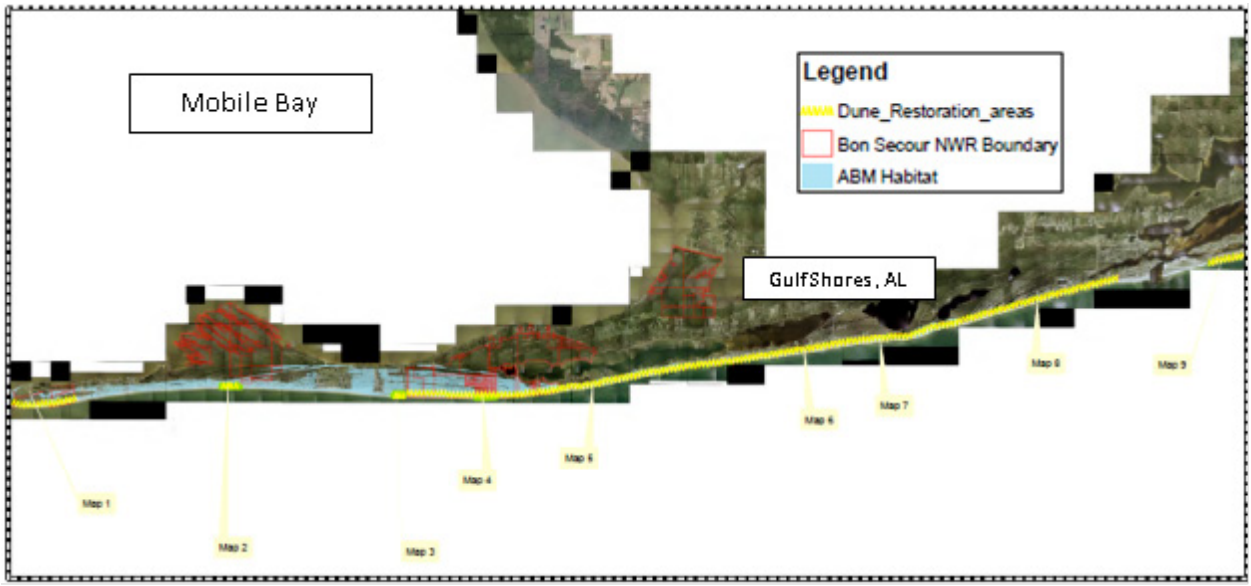

Alabama Dune Restoration Project planting/fencing areas.